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ABSTRACT

The problem of physical disability is growing as modern technology rises due to a combination of increased injury rates and improved medical techniques, resulting in a rapidly growing number of surviving disabled persons. Despite the increasing incidence of disability, unnecessary physical barriers which exist throughout our society prevent four-fifths of all employable disabled adults from earning a living. This report covers the four areas where environmental barriers are most serious: housing, public facilities, transportation, and recreation. Federal, state, and local programs to eliminate barriers, and future areas of emphasis in reducing barriers to mobility are considered. Related documents are available as VT 011 820 in this issue, and ED 037 878 and ED 038 790. (BH)

The Goal Is: Mobility!

Environmental and Transportation Barriers Encountered by the Disabled

by

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"The Goal Is: Mobility!" is one of a series of five papers prepared for the use of delegates to the National Citizens Conference on the Disabled and Disadvantaged which was held in Washington, D.C., June 24–27, 1969. Other papers in the series are: "Legal Rights of the Disabled and Disadvantaged", "Delivering Rehabilitation Services", "Financing Rehabilitation Services", and "Consumer Involvement in Rehabilitation". "People Power" (a report of the Conference) has also been published.

All five conference papers were written under contract with the Social and Rehabilitation Service of the U.S. Department of Health, Education, and Welfare. The opinions expressed are those of the authors and/or members of the Conference work groups who requested the papers and aided in their preparation. The views do not necessarily reflect opinions or policies subscribed to by the Department of Health, Education, and Welfare

Members of the Conference Work Group on Environmental Barriers and Transportation requested this paper and gave advice and suggestions to its author. Members of this group and agencies they represented were:

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Introduction

The National Citizens Conference on Rehabilitation of the Disabled and Disadvantaged is confronted with a task that has never before been attempted. That task is to suggest action on ALL the physical factors in the environment that prevent disabled people from making maximum use of their potentials for normal living.

Previously, studies of environmental barriers have been fragmented. The National Commission on Architecural Barriers, with a mandate from Congress to study and make recommendations on public buildings, completed and published a comprehensive report of that aspect of the problem in 1968. The U.S. Department of Housing and Urban Development and the U.S. Department of Transportation have developed information on the housing and transportation aspects. The U.S. Department of the Interior has issued a report on "Outdoor Recreation Planning for the Handicapped."

Through the U.S Department of Health, Education, and Welfare and the President's Committee on Employment of the Handicapped, these and other studies of specific types of barriers have been widely disseminated, and well-rounded, comprehensive programs have been encouraged. Voluntary agencies, such as the National Easter Seal Society for Crippled Children and Adults, as well as organizations formed by the disabled themselves, have also been influential in stimulating interest and action.

This Citizens Conference however, offers the first opportunity for a representative national body to study and make recommendations on the total problem of environmental barriers.

The material in this report was prepared by the Work Group on Environmental Barriers and Transportation in order to give Conference participants an advance review of elements of the problems that are considered to be of major significance.

Much of the material will be familiar to participants, many of whom have given long and devoted attention to the problems that confront the disabled. However, the Work Group members felt that the compilation of such material would be helpful to participants as a source book to be drawn upon in talking to community leaders both before the Conference (to get their suggestions on issues to bring to the Conference) and after the Conference (to enlist help in carrying out Conference recommendations). The Work Group also hoped that the issuance of such a report would expedite Conference activity by giving participants a common body of knowledge, thus enabling them to plunge immediately into the formidable task of formulating practical proposals for the rapid removal of major environmental barriers.

Most of the report deals in some detail with the four major areas where environmental barriers are most serious: Housing; Streets, Buildings, and Other Public Places; Transportation; and Recreation. The final sections present some of the issues that may need to be resolved and suggest lines of approach for post-Conference activity.

Who Are The Disabled?

It is inevitable that *almost every person* in the United States, at some time or other, will have physical impairments and will encounter environmental obstacles that will prevent him from doing the things he wants to do—unless he lives in a barrier free environment.

Even those who are fortunate enough to escape disabling illnesses and injuries will ultimately be caught in the web of time when failing eyesight, impaired hearing, stiffened joints bring fresh awareness of the countless hazards and inconveniences that the chronically disabled have been encountering for years.

Right today, almost 30 million disabled Americans are the victims of *unnecessary* barriers to their activities: in their homes, on the streets, and in the buildings and recreation areas that, in theory but not in fact, are intended for the use of any citizen.

The proportion of the population which is disabled is bound to grow as modern life becomes more hazardous (auto accidents alone caused 1,200,000 disabling injuries in 1967) and as improved medical and rehabilitation skills enable more people to survive and to be active despite injury, illness and old age.

At present, 2 million children have orthopedic handicaps and 100,000 babies are born each year with congenital impairments.

Auto accidents have added 200,000 paraplegics (paralyzed from the waist down) to the growing population of wheel chair users.

Among the veterans of World War II, Korean, and Viet Nam Wars are 332,000 men who have serious and permanent disabilities connected with their military service.

A thousand men and women a day pass their 65th birthday and enter the period when arthritis, heart disease, deafness, blindness, and other impairments become most prevalent.

The National Picture

The most recent analysis of the extent of disability in the United States was made in 1968 for the Department of Transportation. Using data from the National Center for Health Statistics and other sources, this analysis indicates that, at any given time, the following numbers of people have conditions which would be less handicapping if environmental barriers were eliminated:

Chronically Disabled (Including Aged)	6,093,000
Disabled by:	
Injuries and Diseases	4,642,000
Age (non-chronic conditions)	15,281,000
Pregnancy (3 to 9 months)	2,097,000
Excessive Overweight	192,000
Institutional Population (Exclusive of aged and bedridden)	1,339,500
Total	29,644,500

Barriers Everywhere

All of these millions are affected by unnecessary obstacles to their mobility. For many of them life could be busy and happy were it not for such things as:

- The steps which prevent the arthritic old lady from going to her church for the spiritual and social satisfactions it gave to her when she was abled-bodied.
- The thoughtlessly designed school and playground which make it necessary for the child with braces to be educated separately and lose contact with his neighborhood playmates.
- The kitchen equipment which makes it difficult, and sometimes impossible, for handicapped housewives to carry out their homemaking responsibilities.
- The problems of transportation and working conditions which mean that four-fifths of the seriously disabled adults, who have been judged employable by their physicians or by rehabilitation agencies and who are of working age, are unable to earn a living.

In addition to being completely barred from many activities they could otherwise engage in, the disabled are constantly frus-

trated by a myriad of inconveniences: telephones and water fountains that are just out of reach; doors that are hard to open; too narrow aisles in theaters, stadiums, restaurants, and other public gathering places.

Poverty Adds to Problem

If they had plenty of money, the disabled could surmount some of their problems by hiring an attendant, taking taxis, having their homes especially designed for their needs. But the vast majority are not only disabled, but poor. Whereas, only 21 percent of the general population live in families with incomes of less than $4,000 a year, over half of the families of employable but disabled adults live below this poverty line. Among the aged who live alone or with non-relatives, 77 percent have incomes of under $2,000 a year.

Because of poor housing, poor nutrition, neglected health needs, people who were reared in poverty account for a high proportion of the disabled. They have no reserves to draw upon. Even those who can work, earn little, and neither public assistance nor social insurance is sufficient to remove the hardships of dire poverty.

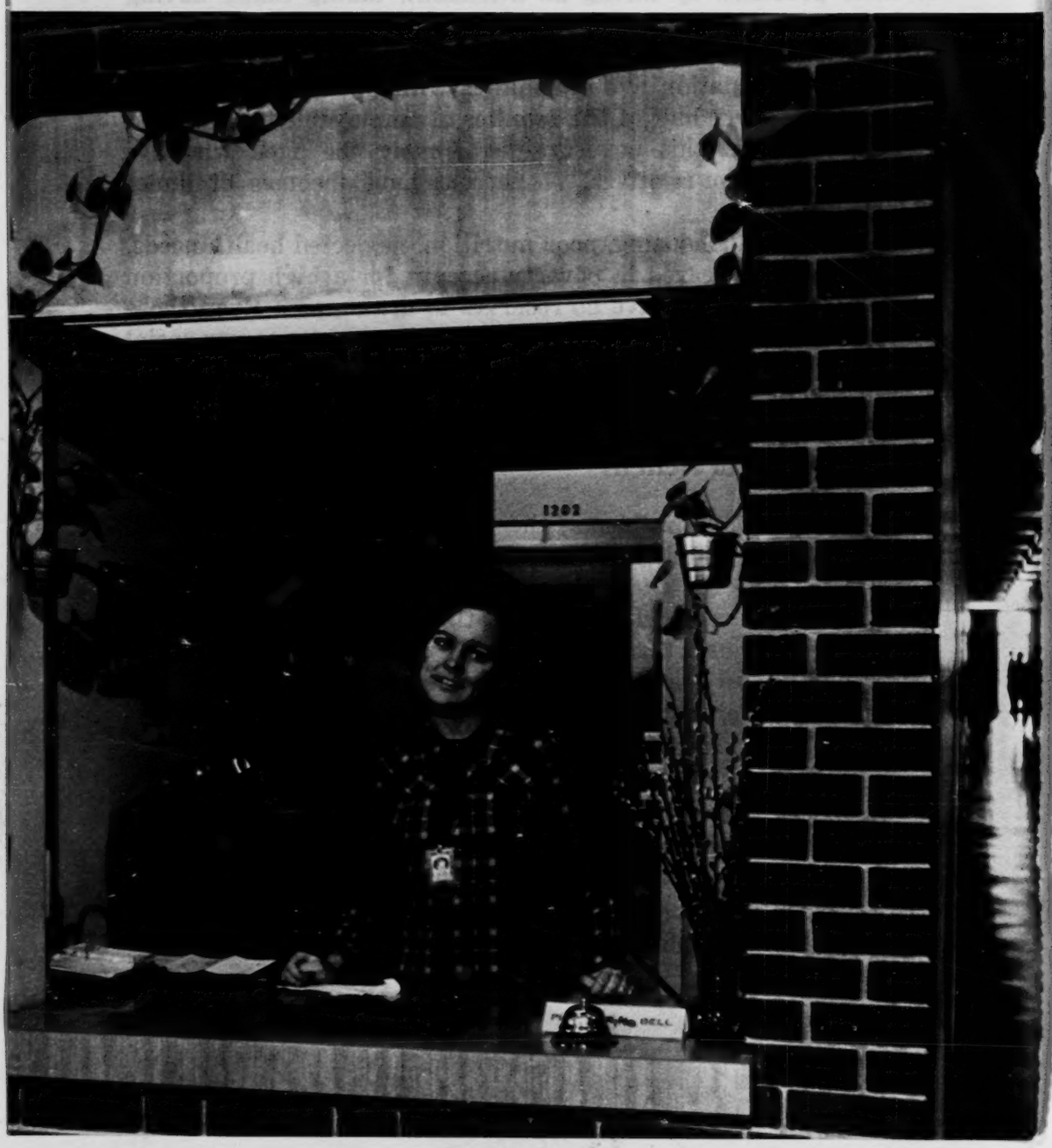
Everyone Could Benefit

All disabled have problems; the poor merely have more. Rich and poor alike would find their lives greatly eased if nothing more were done for them than to give thought to their needs when building, remodeling, or creating facilities and outdoor areas they will use. Such thoughtfulness adds little or nothing to cost and proves a boon to the able-bodied as well as the disabled.

More often than not, the elimination of environmental barriers is actually profitable: it adds valuable workers to the labor force, reduces the cost of dependency, expands the consumer market, lessens insurance costs.

In fact, there is no *sound* reason why thousands of unnecessary barriers continue to exist in every community. But there are *powerful* reasons, the chief being that, until they become disabled themselves, few people are aware of the barriers problem.

Sensitize Yourself: One way to overcome this problem is to sensitize yourself. Try this exercise today: each time you move about, ask yourself: "If I were blind, if I were deaf, if I used a crutch or wheel chair, if my hand or arm were impaired, what problems would I encounter?" Jot the problems down and count them up at the end of the day. However long your list may be, it is likely that you will have missed many more problems than you have found.



Housing

"Of all the basic essentials, the one that troubles me most is a place to live, and I mean by living to grow, to develop, to discover, to create," said a young woman paraplegic.

The Young Disabled

With the advance of rehabilitation programs, more and more of the disabled share her views. They are able and eager to live normal lives working, rearing children, participating in community life. They do not think of themselves as "special" and do not want to live in "special" places. All they ask is a chance to live in an ordinary house or apartment in an ordinary community. Most of them could do so if more housing units were designed so that they could be used by either the disabled or the able-bodied.

As it is now, however, their choice of housing is extremely limited. In conventional housing, they are forced, each and every day, to struggle against tortuous obstacles in the course of merely carrying out the daily necessary routine of living. Too few homes and apartments have been built with the special design characteristics that would make living far more convenient for many handicapped people. "Accessibility features" are hard to find.

Housing for the Elderly

Elderly people, especially those who are frail or have chronic impairments, face a similar problem. Many older people prefer to live in housing constructed for older people, but many do not. Regardless of preference, however, they too often simply cannot find housing they can live in safely and comfortably.

If the disabled and the elderly are to have the same degree of freedom in choosing their homes that other people have, it will be necessary not only to have more housing especially designed for aged or disabled people, but also to eliminate those features of conventional housing which make it impractical for any but the physically fit.

Federal Programs

Since 1948, grants of up to $10,000 (but not exceeding 50 percent of total cost) have been available to veterans with service connected disabilities to help them build, buy, or remodel homes that are suitable for wheelchair users. Even with this aid, less than 10,000 veterans have been able to acquire "wheel chair houses."

Housing for Special Groups

Federal aid—annual contributions, loans, mortgage insurance —for housing for the elderly has been available for about a decade. By mid-1968 about 200,000 of the Nation's 20 million older people were living in housing built with such aid.

Not until 1964, however, was there any broad Federal legislation to encourage the inclusion of barrier free features in regular housing programs, as well as in housing specially designed for the elderly.

Broader Legislation

In that year, the Housing Act was amended so that the handicapped could get special benefits that formerly were available only to the elderly (and in public housing, also to the totally disabled). The amendments provided eligibility of the physically handicapped for occupancy in senior citizens housing financed through HUD's direct loan program for those in the lower-middle income group, and in HUD's mortgage insurance housing for the elderly program for those in a wider income range. The amendments also provided for occupancy in low-rent public housing of single non-elderly physically handicapped persons, and also made

the single handicapped person eligible for occupancy of certain FHA financed housing whether rental, sales, or cooperative. In addition, the 1964 legislation provided that funds from HUD's low-income housing demonstration program could be used to demonstrate the types of housing and the means of providing housing that could be used to assist low-income persons or families who qualify as handicapped.

Prior to the enactment of the 1964 legislation, the only handicapped who could qualify for public housing were handicapped members of otherwise eligible families, persons over 62 years of age, and single individuals under 62 who met the "permanently and totally disabled" requirements for Social Security benefits.

Of particular interest to elderly and handicapped people who want to remain in their old homes was a provision which authorized low interest direct Federal loans for remodeling existing homes in urban renewal and certain other areas. Liberalized further in 1965 and 1968, the legislation now makes it possible for the handicapped and elderly in these areas to receive grants up to $3,000, as well as loans, for remodeling their homes to meet health and safety standards.

In 1965, Congress again gave special consideration to the housing needs of the handicapped. They were specifically included among those eligible to participate in the rent supplement program enacted that year. In addition, in the public housing program, the same liberal funding for construction costs was authorized for the handicapped as for the elderly. Another provision authorized a Federal contribution to local housing authorities of up to ten dollars a month for dwelling units occupied by the handicapped, a contribution previously made only on behalf of the elderly.

In the 1968 housing legislation, the physically handicapped were among the groups made eligible for mortgage interest subsidies and for certain sales, rental, and cooperative housing mortgage insurance programs. Under these new programs, it is possible to reduce effective interest rates on mortgages down to as low as one percent.

These recent improvements in housing legislation have not only made more of the handicapped eligible for Federally aided housing, but have been designed to encourage communities to plan specifically for them.

More Knowledge Needed

Even with Federal incentives, however, no major expansion of housing for the handicapped can be expected until more is known about the extent and nature of the need and the cost of meeting it.

The Market

There is no reliable guide to indicate what proportion of disabled prefer to live in normal communities, as compared to those who want to live in communities created especially for the handicapped. More study also needs to be given to the question of whether it is socially desirable for the disabled to live in communities or projects designed only for them. The present policy of the Department of Housing and Urban Development is to encourage housing that includes the handicapped in normal communities, yet communities have been more inclined to think in terms of special housing than in terms of making housing in normal communities barrier free.

The Cost

Cost is another cloudy area. Experience indicates that, with good planning, the cost of making housing barrier free is negligible. More knowledge about how to plan and design would reduce the instances of higher costs and help to dispel the "can't afford it" argument. Some features which are "musts" for the disabled are also desired by most of the able-bodied. Therefore it should be feasible to change the present specifications for standard, stock items—such as doors—so that they could be used by the disabled. When standard items are used, costs are lowered.

With sufficient study and experimentation, it might also be found that the extra costs of some features could be offset by savings in others. For example, experience in building apartment houses for the elderly has demonstrated that less space needs to be allotted for auto parking than is customary, since fewer old people drive cars. This kind of saving can sometimes pay for the extra cost of specially designed housing.

Guidelines

Until recently, when the Department of Housing and Urban Development issued its publication "Housing for the Physically Impaired," there were few specifics to guide those who wished to construct low-cost housing for the disabled. The designs developed by private organizations and industries, as well as the wheel chair house plans issued by the Veterans Administration, deal with single family dwellings and, while helpful, do not focus on the cost and other problems involved in constructing low-cost apartments and public housing projects.

As a "first", the HUD guide itself is experimental and will undoubtedly be revised as further experience is gained in the actual development of large-scale, low-cost housing which includes accommodations for the disabled.

Special Services

Another area calling for further study and experimentation relates to services. More people who are aged or severely disabled would undoubtedly find independent living feasible, even in housing that was less than ideal, if plans included the provision of certain services. Visiting housekeepers, meals-on-wheels programs, and other community services might well be used.

An emergency alert system which enables a tenant to get help at any time merely by pushing a button which connects with a central office is another service feature to be considered. This would enable many people, especially those who are subject to strokes or heart attacks, to live alone in the secure knowledge that help would come promptly if needed.

Pilot Programs

While recent Federal legislation has not as yet stimulated many local housing authorities to include units for the handicapped in their regular housing plans, the Federal incentives have prompted the development of several projects for people who want to live in special housing.

Toledo Project: One of them is the development of the Nation's first project designed specifically for joint occupancy by the handicapped and the elderly. Sponsored by the Toledo Metropolitan Housing Authority, it is located in downtown Toledo and was opened in December, 1967. It is an eight story building with 164 units, half of them occupied by the elderly and the other half by handicapped people of all ages and their families. A new Goodwill facility with employment opportunities is to be built across the street.

Seattle Project: Another project, in Seattle, is like the Toledo project in that it will house elderly as well as handicapped tenants. All doors, including those in its 150 apartment units, will be wide enough for wheel chairs and all corridors will have handrails. A new facility of the Lighthouse for the Blind will be located on the premises and will offer employment to both blind and sighted tenants. A new Red Cross Administration Building is also being constructed there and will offer additional employment opportunities. The complex will likewise include a multi-service center, constructed by the Seattle Handicapped Club, which will make therapeutic, rehabilitation and social services, as well as recreational programs, available to all the tenants.

Projects for Blind and Deaf: A project in Omaha, Nebraska, designed only for the blind is sponsored by the Omaha Association for the Blind. By obtaining rent supplementation as well as mortgage insurance through HUD, this organization has been able to develop 40 specially designed housing units for single individuals and familes in which one or more persons are blind.

The Pilgrim Lutheran Church for the Deaf in Los Angeles has obtained a 10 percent low interest, long term loan from HUD for a project designed particularly for people who are both elderly and deaf. One of its features is an emergency warning system which uses flashing lights instead of sound.

Standard Housing

The greatest immediate hope for improvement in housing for the disabled, however, lies in improvements in conventional housing. Numerous features of present-day housing which handicap the elderly and disabled are also a menace to the able-bodied.

Safer Houses for All

Non-slip flooring, for example, is a safety feature which every thoughtful renter or home-owner should want. In view of the prevalence of bathroom accidents, grab bars, and secure, weight-supporting towel bars should also be valued by the able-bodied. In fact with 22 million persons a year injured in home accidents—they greatly exceed all other types of accident injuries—a variety of safety features that are essential for the disabled are important for everyone.

Almost every housewife appreciates the elimination of unnecessary stairs—witness the popularity of one-level houses. Outside ramps instead of steps might well have extra sales appeal for mothers who must struggle with baby carriages and grocery carts.

Adjustable, easily reached shelving, windows that can be washed safely from the inside, sliding rather than hinged doors are features whose popularity has already been demonstrated.

When electrical switches and plugs are placed where wheel chair users can reach them, able-bodied people also find them more convenient.

Not only the estimated 10 million housewives who have some chronic condition, but healthy housewives too, like work space in the kitchen where they can sit; find side-opening ovens and laundry equipment a convenience; avoid nasty burns when stove burners are controlled by front dials.

In essence, functional, streamlined housing could probably make normal living possible for a high proportion of the elderly and disabled—and it would make living safer and easier for all.

If all new houses were designed with this fact in mind, eventually many disabled and elderly could find homes where they could live independently.

Apartment Houses

Even more disabled and elderly people could find suitable homes in apartment houses if their needs were considered at the planning stage. In fact, with the large number of people who are handicapped either temporarily or permanently at any given time, it might well be argued that every apartment house should be barrier free or at least have some units on the ground floor that have wide doors and other barrier free features.

Would able-bodied tenants object to handrails in the corridors to guide people with impaired vision and to support the frail? It is doubtful that they would. Raised letters on the apartment doors and raised numbers and sound signals in the elevators, so important to the visually handicapped, create no problems for the non-handicapped and cost very little. Automatic elevator doors, wide enough to accommodate a wheel chair, can hardly be considered a luxury in large apartment houses where many tenants often want to enter the elevator at the same time.

Certainly the entrance and lobby of the apartment house, being public areas, should always be barrier free, with no steps or curbs to bar the disabled, with doors that can be used by persons in wheel chairs, and with the entrance protected by a roof.

Freedom of Choice

Today, most disabled and elderly people live not as they want to, but as they have to. As a result, they are often confined to their homes and dependent upon others for aid in their daily living; they are prisoners of their homes.

The vastly expanded programs of low cost housing which are needed to eliminate our slums and ghettos can also benefit the disabled if thought is given to their needs. The housing planned for new towns, model cities projects, housing developments and high-rise complexes need not exclude the aged, the frail, and the handicapped.

While housing for the elderly is at least under way, efforts to meet the housing needs of the disabled have barely begun. The gloomy picture is only now beginning to brighten. Recent Federal legislation has helped; so have the growing number of architects, designers, and equipment manufacturers who have made use of innovative ideas and products.

Nevertheless, housing remains both the most urgent and the most neglected need of disabled people. Improvement depends, most of all, upon *local initiative.* Federal officials are not authorized to require communities to include the handicapped in Federally-aided projects. *It is up to concerned citizens to do this.* They are the ones who can stimulate local housing authorities to build housing for the low-income elderly and handicapped. They are the ones who can get civic, church, labor, fraternal, and other non-profit groups to tap Federal financial aids to build housing for the middle-income elderly and handicapped. And it is concerned citizens who can best influence all architects and builders in their communities to design and build all housing with barrier free features.

Streets, Buildings, and Other Public Places

Although on any day just about every sixth American has a mobility-limiting impairment—and many of these impairments are orthopedic or otherwise obvious—the average person, going about his daily activities, is unaware that the problem is so prevalent. A check on community facilities shows why.

Outdoor Hazards

Street Curbs: At every street intersection, there is usually a curb. For the wheel chair user, this is like Pike's Peak. For the blind and people with crutches or braces, it is difficult and hazardous. Even able-bodied people, if they are laden with bundles or are wheeling baby carriages or grocery carts, find curbs inconvenient. Nothing could speak more eloquently of the power of custom over reason than the Nation-wide failure to substitute ramps for curbs at street corners. When streets are widened or repaired, almost inevitably, the curbs are restored, perpetuating this most flagrant of all symbols of thoughtlessness. One city—Minneapolis—has a current program to rectify its curb problem as it renews and repairs its streets. A few other cities and towns have already ramped or cut back their curbs.

Parking Areas: Another good reason why the disabled tend to stay at home, even when a car is at their disposal, is parking difficulties. Shopping centers, apartment houses and many other places that boast of their easy accessibility by car, usually mark parking spaces so that there is just room for an agile person to squeeze between his car and the one in the next space. Rare is the

establishment that marks a few parking places with double lines to allow extra room for those with canes, crutches, or wheel chairs. Seldom are spaces for disabled passengers reserved near entrances. And once the passenger has alighted, he is almost inevitably confronted with the ubiquitous curb.

Places to Rest: Although beautification plans often include small parks or plazas in shopping areas, where people can sit to watch the passing scene, the average designer's unimaginative method of setting them off is to put them a few feet above or below street level. Access, of course, is by steps, not ramps or well graded inclines.

Except in a few cities like St. Petersburg which are Meccas for the elderly, benches are rarely seen on streets or by bus stops. And even in public parks, the benches often lack firm armrests, without which it is difficult or impossible for the disabled and infirm to use them.

Unusable Buildings

Another reason disabled persons tend to stay at home is that they cannot use most stores, offices, factories, churches, and other public buildings.

Entrances, Elevators: All too frequently, the disabled are barred at the very entrance of a building by steps, by revolving doors or doors that are heavy and hard to open. If they are fortunate enough to find that the entire area from street to elevator is ramped or on one level the disabled may find that slippery floors make their journey hazardous. Or the elevator doors or cars may present problems; or there may be no elevator at all if the building is two or three stories high. The blind frequently have to ask for help simply because the control buttons in the elevator car are flat instead of raised. Even when such obstacles are surmounted other problems arise.

Rest Rooms: For example, a survey of 3,000 buildings in Washington, D.C. revealed just 23 rest rooms that people with wheel chairs could use. Even some hospitals did not have such facilities. Lack of usable toilet facilities is probably the greatest single reason why many well-qualified people with impairments are unable to accept employment. It is also one of the big reasons why they do not go shopping or patronize other public places. Yet as simple a thing as replacing a booth door with a curtain will often allow for enough maneuverability to make facilities usable.

Fountains—Telephones: Less essential, perhaps, but very inconvenient, is the tendency to place drinking fountains, vending machines, and public telephones out-of-reach of people who are stooped by age or use wheel chairs. Low, wall-mounted telephones are especially important in public places, not only for the disabled but for short people and for children who are old enough to go to shops and movies but not tall enough to reach a standard phone. Everyone finds such phones more convenient.

Effect Upon Employment

Being barred from places that are intended for the general public is unjust to all disabled, but those who need to earn their living feel the injustice most of all because their dependency is resented by the very society that makes it impossible for them to be independent.

Study of Employables

A sample study of disabled persons aged 18 to 64 who had been judged employable revealed that only 62 percent of the least disabled, 34 percent of the moderately disabled, and 21 percent of the severely disabled were employed. The same study showed that, despite barriers to education, this disabled group was more highly educated than the general population. Only 9 percent of the general population had had 16 or more years of education as compared to 13 percent of the disabled, conversely, only 15 percent of the disabled but 28 percent of the general population had had less than nine years of schooling. Clearly, the disabled are prepared to be valuable members of the work force, but the Nation's offices, stores, and factories are not prepared for them.

New Building Construction

According to the American Institute of Architects, *more buildings will be built in the United States between now and the year 2000 than were built here in the nearly five centuries since Columbus discovered America.*

With the movement to reclaim the blighted areas of cities, much of this new building should include neighborhood health and service centers, day care facilities, low cost housing and other facilities that are especially needed by the disabled and disadvantaged.

Several developments in recent years indicate that the new construction *may* be barrier free. Here are some of the reasons:

Standard Specifications

In 1961, the United States of America Standards Institute issued "Specifications for Making Buildings and Facilities Accessible to and Usable by the Handicapped." Developed with the leadership and cooperation of the American Institute of Architects, it provides precise and practical specifications for making all types of public buildings barrier free. If owners, designers and builders see that these specifications are followed when new buildings are constructed and old ones are remodeled, the barriers problem will begin to diminish.

The Standard has been endorsed not only by the architects but also by the Association of General Contractors and by major health, civic, religious, labor, and industrial groups that are responsible for the construction of many buildings. Several States have also incorporated the Standard, in whole or in part, in architectural barrier laws.

National Commission on Barriers

A further incentive to making buildings accessible is the report issued by the National Commission on Architectural Barriers to the Rehabilitation of the Handicapped. This Commission was authorized by Congress and appointed by the Secretary of Health, Education, and Welfare in 1966. The 15 members of the Commission—all noted for their interest and work on the environmental barriers problem—issued their report in 1968 after intensive work that included special studies as well as hearings held in all regions of the country. Entitled "Design for ALL Americans," it gives an appraisal of the current situation and then, through a series of recommendations, presents a blueprint for action which, if followed, would assure rapid improvement of the degree of accessibility of most buildings used by the general public.

Cost Data

In addition to the existence of good specifications and action plans, there are also sound data on the cost of making buildings barrier free. For example, the National League of Cities recently made a cost study of three new buildings—a civic center, a city hall, and a hotel. Comparing what was spent to what would have

been spent to make these buildings accessible to the disabled, the League found that the increased cost would have been less than one-tenth of one percent.

The League also made cost estimates of seven hypothetical buildings, each representing a type commonly being built today. They figured that the extra cost of building them barrier free would be less than one-half of one percent.

The League of Cities studies were arranged for by the National Commission on Architectural Barriers. This Commission also reported that:

"Any building can be made accessible to the handicapped with little or no loss of space and without detracting from its usefulness for the able-bodied."

The U.S. General Services Adminstration has found that the cost of removing architectural barriers in existing buildings, when other renovations are being made, is one percent, or less, of the renovation costs.

Laws, Codes, and Other Official Actions

Federal Law: Potentially, one of the most powerful measures for making buildings barrier free is a law passed by Congress in 1968. Under this law, buildings which are to be used by the general public or in which disabled persons may work or live (except private residences and buildings used only by able-bodied military personnel) must be barrier free if:

1. They are constructed or altered by or on behalf of the Federal Government.
2. They are to be leased in whole or in part by the Federal Government.
3. They are to be financed in whole or in part by a Federal grant or loan.

This law will not only affect the buildings in all parts of the country where Federal employees work, but also the school, library, hospital, housing and other construction which receives financial support.

The minimum requirements which such buildings must meet have been developed by the General Services Administration and the Departments of Defense, Housing and Urban Development, and Health, Education, and Welfare.

State Laws: State legislation can affect many of the buildings that the Federal law does not reach. By the end of 1968, all but three States—Mississippi, Texas, and Utah—had taken some type of official action by law, executive order, or proclamation. Although many of the State requirements are weak and limited in their coverage, they are being strengthened. For example, in 1967, Illinois passed a law which covers all construction except private residences. Unlike the laws of many States where enforcement provisions are vague, the Illinois law places responsibility for enforcement in a single agency—the Department of Public Works and Buildings.

A few local building codes have accessibility requirements, but progress in this has been very limited and, to date, none of the four National building codes—on which local codes are usually based—includes barrier free features.

How much the Federal and State laws and local regulations will help depends in large measure upon the interest of designers and builders in observing the spirit as well as the letter of the law and upon the concern and support of all citizens.

Schools, Colleges, and Universities

The job market for under-skilled and under-educated workers, even if they are able-bodied, is steadily dwindling and for the disabled, it is practically non-existent. That more than a million persons with chronic, mobility-limiting conditions are currently employed is a tribute to their personal qualities, not to a society which has erected so many obstacles to their getting an education.

Early Education: A handicapped child's first real awareness that his disability sets him apart occurs on the day he enters school and frequently has a permanent effect upon his outlook on life. Instead of going to the neighborhood school with his friends, he may have to enter a school constructed at extra expense—where all the children are disabled. With ramps and other safety features which would benefit all children, many disabled children —an estimated 60 percent of the pupils in special schools and institutions for the handicapped—could attend regular grade and high schools in their own communities.

Vocational Training: When a disabled person is old enough to go to college or to learn a trade, his troubles are compounded because very few regular vocational and technical schools are designed to accommodate disabled students. Although vocational rehabilitation agencies prepare more than 200,000 disabled people for jobs each year, much of this is tailor-made training or retraining for workers who have become disabled. For the young with congenital or other impairments, the best answer would be admittance to their community's regular trade school.

Colleges—Universities: Student protests are common today but it was different in 1949 when Professor Timothy J. Nugent and nine students in wheel chairs descended upon the Illinois State Legislature to protest the closing of a facility in Galesburg where disabled veterans were getting a college education. Despite their protest, the facility was closed BUT the University of Illinois began to be open to such students. Due to the pioneering and continuing work of Professor Nugent, Illinois is not only barrier free today but its example is being followed by a growing number of institutions of higher education.

Missouri Project: A step-by-step description of how barrier freedom was attained by the University of Missouri is contained in a report submitted to the U.S. Department of Health, Education, and Welfare which provided a grant to help finance the change. First, a master plan was developed by a committee representing the departments and services that would be affected. Then priorities were set in terms of the facilities that disabled students would use most. The plan also required that all new construction would meet the Standard Specifications of the U.S.A. Standards Institute.

During the first year of the five-year project, 35 ramps were constructed and curbs were beveled at 45 crossings to make miniature driveways for wheel chairs. During the ensuing years, 35 buildings, including five dormitories and some apartments for married students, were modified.

Elevators were the most costly change. The 15 that were installed absorbed almost half of the project's funds. Other changes included widening door-ways, installing automatic doors at entrances of main buildings, and providing toilet facilities for disabled men and women in every building they would use. Phones and drinking fountains were lowered to wheel chair height. The library, cafeteria, recreational, and laundry facilities were designed and equipped for use by the disabled. A bus with an hydraulic lift, which the student himself could operate, was purchased to take students to distant class buildings, football games and other events.

Need Remains

Institutions of higher education have unquestionably been in the vanguard of the barrier free movement, but the number that can accommodate disabled students is still limited. A directory of colleges and universities, issued by the Rehabilitation Services Administration in 1968, lists 200 colleges and universities in 40 States and the District of Columbia that have made some effort to eliminate handicapping barriers. But there are 2,252 colleges and universities in the United States!

Moreover, the criteria used in compiling the lists was extremely limited, covering just six features: on-campus housing ramps, library ramps, classroom ramps, beveled curbs, reserved parking and modified toilet facilities. Only 10 of the 200 had all six of these features.

A Modest Wish: "If communities just had plenty of ramps and accessible rest room facilities, it would make all the difference," said one young wheel chair user who, until she attended the University of Illinois, had sat at home for years, leaving her wheel chair only when she was carried to the bathroom and to bed.

An alerted public could grant this wish and more: gently graded walks, traffic lights with sound signals for the blind, markers or symbols conspicuously displayed in windows or on outside walls to indicate that the interior of the building is barrier free, and many more things, big and little, that thoughtfulness would suggest.

Transportation

Even the able-bodied become infuriated by the conditions of mass transportation in most communities. Like the problem of decent, low-cost housing, the transportation problem has reached crisis proportions and it is inconceivable that action can be long delayed. But will improvements be designed to benefit the disabled? At present, the signs are not promising.

Urban Mass Transportation

Bay Area Rapid Transit: Among communities that have begun to perform their mass transportation systems, only one thus far reflects a genuine effort to enable *everyone* to use its facilities—the Bay Area Rapid Transit which serves the San Francisco area. Minneapolis and St. Paul are beginning to add accessibility features, and in Washington, D.C., concerned ctiizens, armed with a mandate from Congress, are carrying on a determined battle to have their new subway system barrier free. A few other communities have added, or are planning, some features that will make transportation somewhat more feasible for some disabled.

Business as Usual

In general, however, other problems such as financing, manpower shortages, and working conditions tend to preoccupy the industry and the unions; official transportation authorities often seem more interested in conformity than in innovations; and designers of transportation equipment are apt to exert their imaginations on changes that have little to do with accessibility. Without intense efforts, and well-organized action programs in every

community, it is unlikely that many of the disabled will be able to use barrier free buildings and other facilities for lack of the ability to get to them.

Federal Leadership

ABT Research on Transportation: One of the bright spots in this generally dark picture is the action taken by the U.S. Department of Transportation to provide specific guides and other aids to communities that want to meet the transportation needs of their disabled. In April, 1968, the Department awarded a one year research contract to ABT Associates. As a result, more is now known about the transportation needs of the disabled: how many need transportation, where they live, the nature of their physical limitations, the barrier problems that affect them most.

More importantly, the study has also produced a set of guidelines designed for local planners. These provide practical and specific suggestions for improvements. The researchers were realists. They recognized the unlikelihood that communities would scrap their present systems and develop ideal new ones. Consequently, one of their most important contributions was the development of an evaluative technique simple enough for non-specialists, such as city officials, to use. It enables them to evaluate their systems on a cost-benefit basis and develop a program of gradual improvement—beginning with features they could budget for immediately, and adding additional features to their long range plans.

The research has also produced innovative designs which not only can be put into use but also should stimulate other designers to devise ways in which transportation equipment and facilities could be made more accessible.

Arthur Little Study: Another study, related specifically to the connection between inadequate transportation and employment of the disabled, was completed in 1968 by Arthur D. Little, Inc. for the U.S. Department of Health, Education, and Welfare. Their study was based on a statistically valid sample of persons between 18 and 65 years of age with mobility-limiting conditions

who had been judged employable by physicians and/or vocational rehabilitation agencies. Only the most obvious mobility-limiting conditions were used in determining that part of the population from which the study sample would be drawn: amputees, paraplegics, and quadraplegics, the blind, and those with serious visual impairments, persons with back and spine impairments, and persons with diagnoses of cerebral palsy, muscular dystrophy, multiple sclerosis, arthritis, and rheumatism.

Although all of the people in the study were capable of working, less than half were actually employed at the time the survey was conducted. That inadequate transportation is a major factor in their unemployment is indicated by an analysis of the type of transportation used by those who were employed. Forty-two percent were able to get to their jobs by walking or using their wheel chairs; 28 percent were driven to work in private cars. Obviously, when job choices are limited to those which can be reached without using mass transportation, opportunities for employment are drastically reduced.

Results of Federal Studies: Both the ABT and the Little studies produced evidence that the disabled value mobility so highly that they are willing to pay even more for it than are the able-bodied although their incomes are generally lower, and their need for cheap, mass transportation is greater. The Little study demonstrated the economic value of accessible transportation in terms of enabling the disabled to be self-supporting. The ABT study demonstrated economic feasibility as well as practical ways of making transportation accessible.

The Current Situation

Anyone who has gone through a subway turnstile with his arms laden with packages, or shepherded a small child on and off a bus, been punched and jammed in rush hour transportation or been jolted and thrown in off-peak hours when there is no crowd to cushion him, can appreciate some of the terrors mass transportation holds for the disabled. Even those who depend entirely on private cars are affected because, as the situation worsens, more

people resort to private transportation and the areas of bumper-to-bumper traffic increase.

Needs Common to All

Ironically enough, most of the improvements in mass transportation that are essential for the handicapped are badly wanted by all users of such transportation.

Long waits, standing on a street corner with no protection against wind, rain, and snow, make anyone miserable. For asthmatics, who are likely to have seizures if exposed to abrupt changes of temperature, the transition from cold corner to heated car may mean serious illness.

Paying one's fare in a lurching bus is a balancing feat at best. For persons with impaired hands or arms or who depend on canes or crutches for support, it is often an impossibility.

No one enjoys the perpetual rush-hour battle between those who want to get out of a subway car door and those who want to get in; the disabled know, even without trying, that they will be sure losers.

Every woman who has worn a tight skirt, every child, and almost all elderly people dread the high steps that confront them when they enter a bus. People in wheel chairs cannot manage them at all.

Only a limited number of people live close to a bus or subway stop, and neither of the alternatives of walking or driving are very satisfactory. The feeble and disabled do not even have these alternatives; they just have to stay at home.

What Could Be Done To Help Everyone

The guides developed by the ABT research and issued by the Department of Transportation suggest numerous ways to make mass transportation possible for the disabled and pleasanter for all.

Sheltered Benches: For example, sheltered benches, with firm armrests to help the infirm get up and down, with infrared heat-

ing units in the roofs above them would alleviate considerable hardship. One city recently made this improvement—but, typical of the thoughtlessness which is the nub of the entire environmental barriers problem, placed them on the street edge of the sidewalk, assuring that those who use them on a rainy day will be well splashed by passing traffic.

Subway Gates: Turnpike travel has proved that subway turnstiles are unnecessary and obsolete. The same type of automatic devices that make it possible to pay fares on a toll road without leaving one's car could be readily adapted to replace the inconvenient turnstiles that subways now use.

No-Step Buses: No insoluble engineering problem requires that passengers must ride on top of the bus machinery rather than under it, but, as one designer commented, the basic blueprints for building buses haven't been changed in more than 40 years. If redesigned, a bus could pull level with the bus stop curb and wheel chair users, along with everyone else, could get to a seat without encountering any steps. Although buses seem to be immortal—over half the transit buses now in use in the U.S. are 14 years old or older—they probably are not, and if all replacements were step-free, the problem would gradually disappear. For more immediate relief, it is possible to install hydraulic lifts.

Well Spaced Poles: Over-crowding of cars during rush hours may be inevitable, but better spacing of poles would mitigate the problem for rush hour standees and help the disabled and infirm at all hours. Instead of placing poles in the center of aisles, they could be placed beside every other seat. This would give standees more places to hold to, leave aisles open for wheel chairs, and give the infirm the support they need for getting up and down from their seats.

Computerized Speeds: Some of the newer transportation systems are finding it practical to control take-off and stopping

speeds automatically so that, by gradual acceleration and deceleration, there is no jolting, and passengers can walk safely to their seats. Cheaper and more practical for many systems would be operator training which stressed consideration for all passengers and allowance of sufficient time for the aged and disabled to be seated before the vehicle moves. Frequent inspection would help to assure that this training was put into practice.

Collecting Fares: In many countries, two employees work on each bus, one of whom collects fares from passengers after they are seated and helps passengers who need assistance in getting on and off. An alternative to this increased manpower is a ticket box at each stop where passengers, by taking the precaution of having the right change on hand, can get their tickets before they board. Obviously, such boxes would need to be low enough for children and wheel chair users to reach.

One Way Doors: While it is difficult to control incoming and outgoing traffic, particularly in rush hours, more doors, especially in subway cars, would help. Buses sometimes control the problem by not opening the entrance doors until all passengers have left the exit door.

Jitneys: There is increasing evidence that a profitable market now exists for the old-fashioned jitney service. With computers, it is possible to route cars so that they can pick up a maximum number of passengers in a limited area. Another method is to have them cover certain neighborhoods on certain days. Housewives, as well as the elderly and disabled, can plan their errands and shopping trips accordingly. This would solve many problems for those who cannot afford taxis and do not live near a bus or subway stop, as well as for people in rural areas and small towns who cannot drive a car. Drivers, of course, should be trained to assist the disabled, and the jitney cars should be equipped with a loading ramp and other accessibility features.

These are but a few of the ways that consideration of the needs of all would enhance mobility opportunities for the disabled.

Special Aids for the Disabled

Steps: For wheel chair users, and for many people with leg and back impairments, steps are the big problem. Yet it is seldom possible to reach a subway car or board a commuter train or bus without encountering steps or escalators. Ramps, elevators, even small chairlifts attached to stairs are answers, well known, but too infrequently used.

Touch and Sound Signals: Directional signals are a major need of the blind. Any stranger using a big city subway system knows how dependent he is upon signs, arrows, and lights to protect him from permanent imprisonment in a maze of underground passageways. These aids are of no use to the blind and others with seriously impaired vision. Much could be accomplished, however, by changes in floor textures. One type of texture could indicate approach to a fare booth or box; another to uptown trains; a third to downtown trains, etc. Stereophonic sound signals along the passageways could be used not only to guide blind passangers but also to let the sighted know how much time they had to catch a train or bus.

Inter-City Travel

Most of the barriers that make it difficult or impossible to use mass transportation at home are also encountered by the disabled when they travel—with other specialized hazards in addition.

Terminal Facilities: Airports, and bus and train stations frequently have all the architectural barriers found in other public buildings—steps, hard-to-open doors, unusable rest room facilities etc. Also, long distances from entrance to point of embarkation present problems even to the traveler who is fortunate enough to have help with his baggage. An adaptation of golf-cart-type cars which could carry people—the disabled, the elderly, and women with small children—and their baggage through the terminal is

practical, but to date is more dream than reality. Ticket and information counters are impossibly high for many.

FAA Directive: To encourage airport terminals to improve their facilities, the Federal Aviation Agency recently issued an advisory circular on "Airport Terminals and the Phsyically Handicapped." It urges such things as space at airport entrances for private cars to unload, valet parking for disabled drivers, ramps, wide automatically opening doors, rest room facilities for wheel chair users, raised letters on signs that the blind can read, warning sound signals by doors where baggage trucks enter and in other danger areas.

Legislation: Only one State to date, Maryland, specifically includes transportation terminals in its architectural barriers law. The limited legislation, anywhere, that relates to transportation problems of the disabled is concerned mainly with the reservation of parking places.

Vehicle Barriers: Steps block the entrances to most vehicles and, if these are mastered, the traveler encounters such problems as overhead luggage racks, too narrow aisles, too small rest rooms, and the difficulty of getting a seat that is near the entrance, the rest room and the drinking fountain.

Airline passengers who have to transfer have sometimes found themselves stranded in mid-journey because of airlines' differing interpretations of a regulation which states that they can refuse passage to anyone who is not completely capable of taking care of

himself while in the airplane. To some, this means ability to use the plane's rest room.

Bus and rail travel are particularly important to the disabled because of their limited incomes, but frequently they cannot use these facilities unless they have a companion to help them get on and off, handle their luggage, and bring them their meals.

Automobiles

The automobile, despite designing that makes it difficult to get in and out, seems less formidable to the disabled than do other types of transportation. It is the choice of many both for local transportation and for travel.

Taxis and Rental Cars: Increasingly, taxi companies are beginning to respond to the need by equipping cabs with ramps and by offering a regular pick-up service at specified times. Drivers are trained to help disabled passengers and to handle crutches and wheel chairs. Nevertheless, it is still common to find taxi drivers who do not stop when signalled by a disabled person and who, if summoned to the home by phone, will drive off before the disabled person has time to reach the cab.

Two major rent-a-car firms have also responded to the needs of the disabled. They will provide hand controlled cars at no extra charge. However, to date, this service is available in only a few major cities and, in at least one city, it has been discountinued.

About 400,000 disabled people drive their own cars. Many are veterans because, since 1945, the Veterans Administration has helped to finance cars for veterans who meet their eligibility requirements. At present, the Veterans Administration will pay $1,600.00 toward the cost of a car.

Self-Driven Cars: Special driver training for disabled who use hand-controlled cars is available in many places and, for those who can use such cars, the hazards are minimal. In fact, studies show that disabled drivers have an excellent safety record. This

is not reflected, however, in insurance company policies. Insurance is often hard to get and premiums tend to be higher than for able-bodied drivers. Another problem is exploitation of the disabled by sellers of special equipment. According to the Paralyzed Veterans of America, there is no control on standards for such equipment and much of it is "junk" sold at high prices.

Tourist Facilities: One of the most serious problems disabled drivers encounter is the lack of facilities available to them on trips. Almost inevitably (though needlessly) gas station rest rooms have steps at the entrance, and frequently the rest rooms are too small for wheel chair users and some other disabled people to use. Steps also bar the gas station office so that a disabled driver cannot enter to get maps or information.

Iowa, Michigan, and Virginia now provide roadside rest areas on new highways with barrier free rest rooms which any disabled person, including wheel chair users, can use. The Federal Highway Administration encourages such action in all States.

Roadside phones are another problem. Typically, they are mounted high and are placed in a small, glass-enclosed booth. Some experimentation is under way, however, and it may result in driveways leading to open booths so that a driver can simply turn out from the main road and reach the telephone without leaving his car. Even when this is not feasible, public telephones can be made usable by leaving one side of the booth open and placing the phone at wheel chair height.

The Traveler's Destination

No matter what mode of transportation a traveler uses, once he arrives at his destination he faces the problem of where to stay and where to get his meals.

Fortunately, a growing number of hotel and motel chains are installing units the disabled can use and are making their public facilities barrier free. Some individually owned and operated lodging places are doing likewise and a number of restaurants are barrier free. Nevertheless, in some cities where disabled travelers are most likely to go on business trips, including conventions—for

example, Atlantic City and Washington, D.C.—there are very few lodging places that can accommodate the disabled.

Guides for the Handicapped

To aid disabled travelers, a number of cities have issued guidebooks which not only tell what lodging places, restaurants, historic sights, and places of entertainment are barrier free, but also describe the nature of the barriers that do exist so that the would-be visitor can determine whether he can cope with them. The President's Committee on Employment of the Handicapped has issued a directory which lists such guidebooks for 68 cities and tells where to write to obtain each of them.

The Goal of Mobility: Dr. Howard Rusk, world-famous authority on rehabilitation, says: "The greatest motivation of disabled patients to continue the long and arduous task of rehabilitation is that increased mobility will result from their hard work."

After up-grading their own capabilities, must the disabled remain idle and home-bound for lack of transportation?

Recreation

Global tours by wheel chair? Amputees on skis? Horseback riding by the handicapped? All this and more is possible and has been done.

Disability need not mean the end of athletic prowess; some of the records at the Paralympics held in Tel Aviv in November, 1968, rivaled those made at the Olympics in Mexico City a month earlier. Among the champions from 30 countries who participated were 78 Americans.

But the average disabled person in the average community finds that he is still expected to sit quietly at home and be content with a book or a television program. Thoughtlessness rather than cost is the main reason. If the designers and operators of both public and private recreational facilities would plan for it, the elderly and disabled could enjoy almost as many diversions as the able-bodied.

Fortunately, they are beginning to do so and, with a barrier-conscious public demanding it, the trend should gain momentum.

National Outdoor Recreation Facilities

The National Park Service has begun to reduce the barriers that prevent many people from visiting the great scenic wonders which are owned by all Americans. In a growing number of these places, ramps have replaced steps; camp-sites and rest rooms have been planned to accommodate wheel chairs; parking areas have been made safe and convenient for disabled visitors who arrive by car.

National Parks: Today, some of the 230 National Parks and Monuments have enough improvements so that the elderly, those with heart disease or strokes, those who use crutches, braces, or wheel chairs will find a visit worthwhile. Some parts of these parks, necessarily, will always be accessible only to the vigorous but barriers are prohibited in new construction of all public use buildings, and modification of existing barriers in such buildings is required "wherever feasible." Parks that disabled visitors can now enjoy include Everglades, Yellowstone, and Yosemite. Much more needs to be done, however, to make more National and State parks and monuments more accessible.

A "Guide to the National Parks and Monuments for Handicapped Tourists" has been prepared by the President's Committee on Employment of the Handicapped to help people with limited physical capacities to plan their vacation trips.

Braille Trails: The U.S. Forest Service has also shown imagination in enabling disabled Americans to enjoy their national heritage. Among its most creative projects have been Braille Trails, the first of which was developed in White River National Forest near Aspen, Colorado. Nylon ropes guide the blind visitor safely along the trail and 23 braille markers along the 600 foot hike alert him to the smell of the pines, the chatter of the red squirrels, the roar of the mountain stream.

Other Federal Activities

Sources of Federal Aid: In addition to making Federally-owned outdoor recreational facilities more accessible, the Federal Government also supports the development of barrier free recreational facilities through its grant-in-aid programs. The Department of the Interior has recently cooperated with the National Association of Counties Research Foundation in developing a series of 10 booklets on outdoor recreation designed as community-action guides for public officials. Booklet seven on "Technical and Financial Assistance" lists programs in eight Federal Departments and Agencies that can aid State and local governments in developing recreational resources. The cost of accessibility fea-

tures will usually receive favorable consideration in awarding grants.

Conservation Fund: A major source of Federal aid for the development and expansion of State and local parks and other public recreational facilities is the Land and Water Conservation Fund administered by the Bureau of Outdoor Recreation in the Department of the Interior. A basic eligibility requirement is that the State must develop a comprehensive Statewide outdoor recreation plan and update and refine it on a continuing basis. This plan must take into consideration the needs of the elderly and disabled.

State and Local Facilities

Since it is close-to-home facilities that people with physical limitations use most frequently, the growth of State and local facilities is encouraging. In counties with populations of 100,000 or more, there was an 83 percent increase in public parks and recreational areas between 1960 and 1966.

Standards Mandatory: New York is one of the growing number of States that is making a real drive to open recreational opportunities to the handicapped. In 1967, the New York State Council of Parks and Outdoor Recreation issued a handbook of design standards—"Outdoor Recreation for the Physically Handicapped" —and announced that these standards: "will be required for all municipalities that wish to qualify for State and Federal assistance in their recreational developments." Although the mandatory requirement applies only to future construction, existing facilities are also expected to make adaptations in line with the standards.

A Few Fundamentals

Water Sports: Many of the features that open up recreational opportunities to the disabled are also appreciated by the able-bodied. For example, a board or paved walk on the beach is welcomed

by many who do not want to tramp through soft sand to get to the water. When a nylon rope extends from the walk into the water, timid bathers as well as the disabled are apt to use it.

Similarly, swimming pools that have ramps and wide steps for resting in a recessed area of the pool are appreciated by able-bodied people as well as the elderly and disabled. Both also feel safer when the deck around the swimming pool has a slip-proof surface.

Fishing is feasible for almost anyone if ramps are extended beyond the shoreline and have protective rails. In small streams, fishing can be opened to many handicapped merely by installing a paved turnout with a protective wall around the stream bank.

Picnics and Camping: Picnic sites, when constructed with the needs of the disabled in mind, are often so popular that it is hard to keep them reserved for the people who really need them. Features that make them popular include the location of a parking area with a ramped curb and a comfort station within 300 feet, a nearby drinking fountain, a firm, level surface around the table, and a raised fireplace.

Camp sites for the disabled also have so many features of general convenience that it is usually necessary to reserve them specifically for the disabled. These features include close location—300 feet or less—to wash-house and comfort station, with toilets the disabled can use, and an easy, step-free walk to the campers' store and recreation hall.

Games: Many games such as croquet, horse-shoe pitching, archery and table tennis do not even require minor adjustments in the layout to be used by the disabled. Others can be adjusted at little or no cost. For example, in some parks permanent checker and chess tables have been opened for wheel chair users by removing the bench on one side.

The Stadium: In most places, it is still difficult for the disabled to attend baseball and football games and other major sports

events. However a few universities have taken the lead in making the stadium accessible by installing ramps and by leaving enough room in major cross aisles to seat wheel chair users. This involves no loss of seating space because a row of folding chairs can be placed in the widened cross aisles when there are not enough disabled to fill the extra space. The use of folding chairs also makes it possible for the disabled and their able-bodied companions to sit together.

Playgrounds for Children: Schools as well as parks can readily adjust playground equipment to accommodate disabled children. For example, a slide does not require steps. It can be built into a mound with a ramp-type path curving up to it. A box-type swing with a guard-rail serves both handicapped children and small children. By putting sand and water tables on legs, wheel chair users and able-bodied children can use them. Facilities for crawling through circular metal webbing, playhouses, play tables, and bobbing horses can also be used by both handicapped and non-handicapped children.

Specifications Available

One need not be innovative to provide a wide variety of outdoor games and sports for the disabled. Numerous "how-to-do-it" references are available. Some are prepared by private organizations, for example "Planning Areas and Facilities for Health, Physical Education, and Recreation" issued by the Athletic Institute and the American Association for Health, Physical Education and Recreation. Others are published by public agencies, for example, "Outdoor Recreation Planning for the Handicapped" issued by the Department of the Interior.

Pilot Projects

However, innovation is still needed and a number of pioneering groups are providing it.

Ski Project: One of the newest is a project jointly sponsored by a veterans hospital and a children's hospital in the Arapahoe Ski Basin in Colorado. About 20 Viet Nam veterans and an equal number of children, all of whom have lost one or both legs, are reaping great gains psychologically and physically by skiing together. Single amputees are equipped with one ski and two outriggers (crutchlike devices mounted on small skis). Having only one ski to manage, they can start right out on advanced techniques and it is not unusual for children, after only two lessons, to be using a difficult slalom run designed for expert skiers. For double amputees, a device has been developed which looks like a bicycle with skis instead of wheels. Those who have prostheses use two regular skis.

Bus, Boat and Horses: Other innovative projects include a bus in St. Petersburg, Florida, which takes a sight-seeing route at non-rush hours—enabling elderly and disabled people, at a reduced fare, to have an enjoyable outing. In Cypress Gardens, Florida, a boat—tailor-made for the purpose—opens that scenic spot to the severely disabled. A dude ranch near New York City has made it possible for adults who never rode before to learn to ride after they have become disabled.

Travel: Expo '67 in Montreal proved that even the most complex tourist attraction can be virtually barrier free. Not a single curb blocked the path of a wheel chair user and there were plenty of well-graded ramps. Each disabled person was given a "Pocket Counsellor to Expo '67" at the entrance gate so that he could make his tour alone. Special sign posts along the walks and markers on buildings made it easy for him to find usable rest rooms and other barrier free facilities. There were also special guided tours for the handicapped twice a day, two days a week, and guides, hostesses and Boy Scouts whose special duty was to be of assistance to the disabled. Every disabled visitor was assured hotel-type accommodations in Montreal and, if he wished to see the city, he could use the "Guide to Montreal for the Handicapped."

While most places that tourists want to visit have not been planned as carefully as Expo '67, barriers to many of them are not insurmountable. Some travel agencies have made surveys of facilities in foreign countries and will plan tours especially for the disabled.

Indoor Recreation

Having dinner in a pleasant restaurant and going to a good show is a treat that millions of Americans frequently enjoy, but if there is a disabled person in the family, such a treat is likely to be rare or non-existent.

Restaurants, Theaters: The tables in restaurants are often so close that people on crutches or in wheel chairs cannot get between them. Often, too, the tops of the tables are supported by wooden panels which prevent wheel chair users from sitting close to them.

In some theaters, even the main aisles are too narrow for a wheel chair, and it is a rare theater indeed that uses removable seats in some rows so that they can be taken out when disabled patrons wish to sit in their own wheel chairs.

Frequently, even when a restaurant or theater has a street-level entrance, there will be steps in the interior which say "keep out" to the handicapped customer. In the rest rooms, one seldom sees a booth designed for the disabled.

Since space means money, a major reason why restaurants, theaters, and other places of entertainment bar the disabled is the belief that allowance for the extra space they need will prove too costly. However, a growing number of proprietors are finding that adjustments can be made in a profitable way.

Flexibility is the answer. For example, with removable seats it is a matter of seconds to accommodate wheel chair customers in theaters. Restaurants have found that it is not difficult to set up certain areas where aisles can be cleared and extra space quickly arranged when needed.

Because of the large number of potential customers, restaurants and amusement places that have made such adjustments find that it adds less to the cost than it does to the profit.

Bowling Alleys: Many disabled people like to bowl. By eliminating steps at entrances and down to the bowling lanes, bowling alleys could admit them, but few do. There is a mistaken belief by proprietors that disabled people who bowl are likely to have accidents. In fact, the disabled are more aware of ways to avoid accidents than are most able-bodied people.

Gymnasiums: Schools, colleges, and public recreation departments are becoming increasingly active in making their indoor recreation facilities barrier free since Federal and other public funds have become available to defray the cost. Changes in locker, shower, and toilet accommodations are the main adjustments needed, although some have also obtained special exercise equipment.

Recreation halls usually need little adjustment if the entrances to them are either level or ramped, the doors are wide and easily opened and the rest rooms are accessible. One church fills its recreation room almost every week with a wheel chair group who enjoy doing folk dances.

Libraries, Museums: Since so many people still think of age and disability in terms of the rocking chair and a good book, one would expect that all libraries would be readily accessible, but such is not the case. Although ramp entrances, automatic doors, and low-placed catalogue files are becoming more common, there are still major barriers in many libraries. For example, the aisles between book stacks are often too narrow for people who use crutches or wheel chairs. Many libraries still fail to place reaching devices at the end of each book stack so that short and disabled persons can get books down from the higher shelves. Soundproof booths where the blind can use tape recorders and talking-book machines are also rare.

With modern audio-visual equipment, museums and exhibit

halls could offer a rich and imaginative fare to the deaf and the blind as well as to people with orthopedic disabilities. To date, however, few displays are planned to take account of the needs of the disabled, and it is still all too common to find steps and other architectural barriers blocking access to them.

TV and Movies: When sound replaced film captions the deaf became excluded from a major source of entertainment. This could be remedied. It is mechanically feasible to place written commentary on TV film in such a way that the deaf can have their TV sets adjusted to include the commentary while other people get the same reception that they do at present. Movie theaters could use captioned films on nights when attendance is known to be low —thus building up the audience—or could have special showings for deaf audiences.

A New Advance in Indoor Entertainment: When the John F. Kennedy Center for the Performing Arts in Washington, D.C., is completed, a wheel chair patron will be perfectly at ease.

He will be able to park his car in a space especially reserved for the disabled. He will enter the building by any door, since all entrances will be ramped. Inside, elevators, with wheel chair height buttons, will ascend to balconies and boxes. The orchestra floor will have ramped entrances and spaces for wheel chairs.Water fountains and telephones will be at wheel chair height. Rest rooms will have wide doors and grab bars.

The new structure will also include features to aid the blind, for example, knurled door knobs to indicate danger areas.

The Present Status

The range of recreational opportunities for the disabled and elderly is widening. Most progress has been made in the field of outdoor recreation, largely as a result of the stress on accessibility features by grants-in-aid programs. Least progress has been made in privately-owned recreation facilities, partly because owners have not been alerted to the need, but also because of the dearth of cost studies, specification requirements, and other guidelines to help proprietors who want to include the handicapped among their customers.

The disabled themselves have contributed greatly to the advancement of recreational opportunities. They have been the organizers and instigators of most of them. They have demonstrated their willingness and ability to surmount serious obstacles. The question now is whether the able-bodied will become their partners, reinforcing their efforts to obtain the funds, the designs and plans, the research and experimentation that are needed to make leisure time as rewarding for the elderly and disabled—who often have more of it to spend—as it is to the able-bodied.

Unresolved Issues

While everyone favors a barrier free environment, not everyone is agreed upon how it can best be achieved. Some of the issues that need to be resolved, or at least clarified so that they do not create confusion and thus tend to prevent or delay effective action include:

Integration vs. Segregation

Civil rights measures indicate how this Nation stands on the question of racial segregation, but there is less unanimity about the kind of segregation that concerns those who are disabled. Most notably in the area of housing and to a lesser extent in the area of recreation, the planning of facilities that will most benefit the aged and disabled needs to be related to accurate information about what these groups really want.

For example, some elderly persons prefer to live in retirement villages and apartment complexes that are open only to people over 50 or 60 years of age. Others prefer living in communities that also have children, adolescents, and younger adults.

Similar variations are found among the disabled. Some blind people, for example, find that they have so much in common with other blind people that they would rather live and work in facilities restricted to the blind than to be a part of sighted communities. Other blind people like the stimulation and challenge of being a part of the general community.

Theoretically, this should not be an issue at all since everyone would subscribe to the principle that people should be free to live according to their preferences. From a practical viewpoint, how-

ever, it is a crucial issue because of the scarcity of any housing that is suitable for the aged and disabled. Now that more resources are becoming available for the construction of such housing, where should emphasis and priority be placed?

Unfortunately, the present trend (if there is one) seems to be toward segregation. It is significant that the major housing projects receiving Federal aid, as it relates to housing for the handicapped, have been designed for disabled only, or for joint tenancy by the handicapped and aged.

Results of Philadelphia Study: One of the few studies of preferences—conducted in Philadelphia in 1967—revealed that most disabled, particularly the young and severely disabled, prefer to live among the able-bodied. Given five choices, this is the vote of those who wanted to move:

Housing for Disabled Only	***12%***
Housing for Elderly and Disabled	***17%***
Housing Mainly for the Disabled but Including a few Able-Bodied	***17%***
Single Family Houses	***2%***
Housing Mainly for the Able-Bodied	***52%***

This was a very limited study and more hard data are undoubtedly needed if priorities are to be related to genuine desires. How to get such data is a problem to be considered. If the Philadelphia study proves typical, however, the question arises of how to apply it to future housing construction.

It is obviously easier for special, well-organized groups to develop projects for their members than to get those who are developing housing for normal communities to include units for the disabled. Therefore, unless the issue is faced and practical approaches devised, the present trend toward segregation is likely to continue.

Special vs. Standard Features

By persistent looking, some severely disabled have found conventional housing that met their needs. One couple, both in wheel chairs, found such housing after six months searching. Its main features were wide doorways, level entrance, and mail box,

laundry and trash disposal facilities which could be reached without climbing steps. Their experience indicates that, if more effort were made to get some stock items, such as wider doors, standardized, more disabled people could live in normal housing.

Would it be feasible to develop a check list and specifications for stock building supplies and equipment comparable to the USA Standards Institute specifications for public buildings?

Are the Laws Adequate?

Architectural barriers legislation has now been passed by the Federal Government and most States have also passed laws or taken other official action. Does this mean that efforts to get legislation can now be relaxed?

Although the Federal law is too new for its effectiveness to be evaluated, some who have studied it believe it has weaknesses which may limit how much Federally-aided housing will include units for the handicapped.

The report of the National Commission on Architectural Barriers, based on a recent study of laws, ordinances, and other official actions, states that most of them do little more than indicate sympathetic concern with the problem. Most State laws are limited in coverage (many apply only to new, government-owned buildings), vague in their requirements, lack clear-cut enforcement provisions, and fail to provide for the operation and financing of a unit of State government to be responsible for administration of the law.

Local government, many believe, is the most vital area and this is where least action has been taken. None of the four major National Building Codes—which serve as models for most local codes—contains the USA Standards Institute specifications. Only nine cities and five counties have codes or ordinances that take account of these specifications.

Coverage: If official requirements are to be improved, many issues arise in connection with such improvement. For example, is it feasible and desirable to require private owners to meet accessibility standards? If so, to whom should such requirements apply

—home owners? apartment owners? owners of business places? Should requirements apply only to new construction? to remodeling? to existing facilities?

Most laws apply only to buildings. Should there also be laws applying to transportation, recreation, streets, and other public places? Should the USA Standards Institute revise its specifications to include residential housing and transportation as the National Commission on Architectural Barriers has recommended?

A Criterion of Need: Some have suggested that when public funds are used in the construction of housing, there should be mandatory provisions, at all governmental levels, that relate to need. This might be a way of getting more units for the handicapped included in housing designed primarily for the able-bodied.

Are Laws and Codes The Final Answers?

A fully sensitized public could probably assure an almost barrier free environment, with or without law, but with law to support them, even a few alert citizens can accomplish much.

Watchdog Committees: In a few places, volunteers, usually disabled themselves, have formed committees that visit construction sites, screen building-permit lists, note announcements for construction bids or in other ways identify new facilities that are intended for public use. Then they visit those responsible for the construction, to make sure that accessibility requirements will be met.

A paraplegic in New Hampshire loads his hand-controlled car with copies of the State's architectural law, goes to construction sites, and says to the foreman: "show me the wheel chair entrance." When he finds none, he pulls out a marked copy of the law. Single-handedly, he has been responsible for the building of many ramps. Often, however, he has found that the contractors have obtained waivers, indicating that much educational work needs to be done both with the State authorities and with the contractors.

Enforcement Proposal: With the increasing amount of construction that will be subject to Federal-State architectural barrier laws, it is unlikely that a system that depends entirely upon official inspectors or entirely upon volunteers will discover all violations in time to take preventive or corrective measures. Can a practical plan be developed for organizing, financing, and coordinating their efforts? Constant vigilance is needed to turn legal words into positive action on the building front.

Broadside vs. Pinpointed Approaches

Broad-based support for a barrier free environment is, of course, the ultimate answer to the problem, but where should most immediate emphasis on education be placed—on the general public or on key publics, particularly the professionals in the building trades?

Education for Architects: Those advocating the pinpointed approach point out that there seems to be little real communication between the rehabilitation community and the design community. Although the specifications of the USA Standards Institute have long been available, they are more often ignored than followed. Most schools of architecture, where future architects are reached at their most impressionable period, continue to give design assignments that do not require the design to be barrier free. Nor are students usually required to get first-hand impressions of what barriers mean by trying to cope with typical architectural barriers in a wheel chair. Although a suggested program has been developed by the American Institute of Architects for its members, and plans for regional AIA-sponsored institutes are under way, many local chapters of the AIA do not devote special sessions to architectural barriers. Thus neither in their initial education nor in their subsequent professional training do most architects have any real exposure to the architectural barriers problem.

Must they, as well as contractors, building owners, equipment manufacturers, and other groups be reached by special efforts or would really strong public campaigns motivate them, and at the

same time be building broad-based public support? Must an either-or choice be made?

The Price Tag

Increasingly, government as well as industry base their plans upon cost-benefit analysis. While human as well as dollar values must be weighed, recommendations for a barrier free environment will be assured of greater acceptance if they reflect a reasonable consideration of relative costs and benefits. But what is reasonable?

Building Code Method: This question is currently being approached in different ways. For example the present model building codes contain specific suggestions about the cut-off point where new code requirements are applicable. For existing buildings, repairs or alterations involving less than 25 percent of the value of the building are not expected to comply; remodeling which costs from 25 to 50 percent of the building's value should meet code requirements in the areas that have been remodeled; changes costing 50 percent or more of the building's value necessitate meeting code requirements throughout the entire building.

G.S.A. Method: A different type of approach is followed by the General Services Administration, the Federal agency which carries major responsibility for the construction and maintenance of Federal buildings. Instead of specific cut-off points, G.S.A. relies on a more judgmental approach to the problem of removing barriers from existing buildings, by requiring that such action be taken whenever "major" alterations are made, to the extent that is "architecturally feasible."

Do specific requirements tend to result in minimum standards becoming maximum action? Is enough known about relative costs and benefits to warrant specificity? Are requirements which are stated in subjective, judgmental terms apt to be so vague as to be meaningless? Law makers and program planners look for guidance on such issues.

Schedule of Priorities

With many willing helpers, progress can be made simultaneously on numerous fronts. But since there are never quite enough helpers nor quite enough money to achieve everything that ought to be done today, if not yesterday, priorities are inevitably set either formally or informally.

Are there needs of such urgency and of such nation-wide importance as to merit the formulation of a priority schedule by the Conference and if so, what should it include and in what order? Or can more be accomplished faster if communities have no priority guide and set their own priorities according to local needs?

National Resources

Many national bodies, ranging from civic groups to professional organizations, set up model programs which local affiliates can follow. Frequently these are quite detailed so that, by following them, local leaders have reasonable assurance that they will be successful in carrying out a strong and effective program. Often, special help such as consultation and educational materials are offered in connection with the model program.

Other national organizations shun this approach, being of the opinion that it tends to weaken local leadership, or that it carries an implication that the local leadership lacks the imagination and drive to develop an effective program on its own.

Local affiliates of both types of organizations have mixed reactions. Some feel that uniformity gives added impetus, prevents costly trial and error approaches, brings into play resources no individual community could afford. Others find that their local problems are so distinctive that no national models or materials are helpful. Many, perhaps most, use national models and resources when they are available but make extensive adaptations to fit their programs to local conditions.

Is the experience of other national bodies applicable to the work of the Citizens Conference on Rehabilitation of the Disabled and Disadvantaged? Should it consider ways in which national resources can be developed that will reinforce local action to elim-

inate architectural barriers? If so, what mechanism is needed and what methods should be used? At present, many national organizations include activities related to the architectural barriers problem as part of their broader programs. Can the need be met if they place greater emphasis on the problem or is a special body needed to reinforce their efforts?

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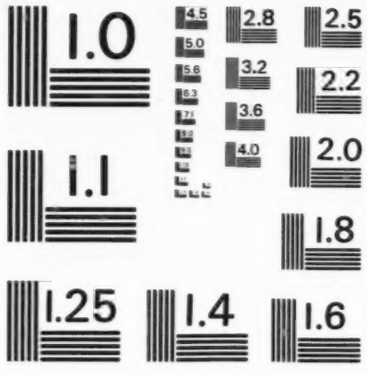

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

The Task Ahead

The big job starts when Conference participants go home, armed with facts, recommendations, enthusiasm. The latter is perhaps the most important of all because it is the antidote to the inertia that keeps so many well-meaning people from rolling up their sleeves to work for a cause.

Consult Statewide Planning Reports: Fortunately, State rehabilitation agencies in every State have now completed their analyses of the status of State rehabilitation programs and have indicated the areas where further action is most urgently needed. This should make it much easier to relate the Conference proposals to the specific needs of the State and thus advance a Statewide plan for action.

Reach Aged and Disabled: Organizations whose members are themselves aged or disabled should be natural leaders in the movement to eliminate environmental barriers. However, one of the most positive characteristics of such groups—their emphasis on self-reliance and independence—sometimes deters them from such leadership. It goes against their grain to call attention to their impairments.

If the Conference is successful, delegates should find it easy to help members of organizations for the aged and disabled to see the environmental problem in its proper perspective; to recognize that getting a handicapping stairway removed is basically no different than obtaining a rehabilitation or senior citizen center or any other advantageous measure for their members. Activity in the barrier free movement enhances rather than detracts from the image of independence.

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Other Special Interest Groups: In addition to those who are already concerned with the disabled and the aged, many people can be interested in the problem: State legislators, city and county commissioners, and, of course, representatives of all the news media.

Other important groups, since programs will directly affect them, include real estate groups, other businessmen, architects, builders, members of construction trade associations and unions, and the makers and sellers of construction materials and equipment used in housing, transportation, business, and recreational facilities.

Selected Information: Selectivity is the key to success in interesting all special groups. The newsman wants to know the dramatic highlights; professional, business, and trade groups care most about items that affect the demand for their services or products; the legislator or local offical wants to know what regulatory action has been recommended and why and how existing laws or regulations need to be changed to comply.

One hopes that as campaigns develop, all groups will broaden their interests, but it is a sound maxim to "start where they are" —too much information, unrelated to the self-interests of busy people, can nip an incipient interest in the bud.

Program Aids

By keeping local needs in mind throughout the Conference, delegates will discover that many elements in the Conference agenda can readily be adapted to make interesting local programs, not only for special-interest groups, but also for women's clubs, men's luncheon clubs and other organizations whose program chairmen are always open to fresh and interesting ideas. The Conference displays of films, materials, and other program features are highly exportable.

In these troubled times, almost everyone who takes his citizen-

ship responsibilities seriously is deeply involved in some worthwhile activity—improving the schools, easing racial tensions, city planning, etc. The delegates' job is to make them aware that ALMOST EVERY CIVIC PROJECT CAN BE STRENGTHENED IF IT IS BROADENED TO INCLUDE THE ELIMINATION OF ENVIROMENTAL BARRIERS.

If their attention is called to facts and recommendations which apply to their special field of interest, leaders in many different types of local projects can be enlisted in the barrier free movement. Armed with facts and sensitized to the need, they can include some mention of the barrier problem when they are interviewed or when they talk to groups about schools, playgrounds, urban development, or whatever their field may be. These constant and continuing references, no matter how brief, are tremendously important in building up a general climate of awareness.

Financial Support

Just because enviromental barriers *are* an integral part of almost every community program, many types of Federal grant-in-aid programs include authorizations for funds to remove them.

For example, the Demonstration Cities Program offers opportunities to plan and develop housing, public facilities, recreation, and transportation in blighted areas of the city. Federal aid can be used to pay for barrier free features. Since blighted areas have the heaviest concentration of disabled people, it is especially important that freedom from environmental barriers be one of the goals of demonstration city projects.

The Department of Housing and Urban Development has funds that can be used to pay for barrier free housing if local people choose.

The Hill-Burton program for the construction of hospitals and health facilities is another source of Federal aid that supports barrier free construction.

Under 1968 amendments to the Vocational Rehabilitation Act, States can use their regular formula grants for the removal of ar-

chitectural barriers as well as for other "group services" that help disabled people obtain the training and employment that will make them independent. With this new authority, some barriers might be removed in vocational training schools, barrier free buses might be purchased and other improvements could be made.

While these and other Federal programs all authorize support for barrier free features, many of the Federal officials who administer these Federal-aid programs report that THESE AUTHORIZATIONS ARE RARELY USED. This is a clear indication that the State and local people who develop applications for Federal funds have not been adequately sensitized to the barrier problem. Calling their attention to these authorizations is one more way of getting them to include among their goals the elimination of environmental barriers.

Opportunities Unlimited

In late 1967, when the National Commission on Architectural Barriers completed its appraisal of community activity, it found that only a few communities were aggressively tackling the barriers problem. It is doubtful that the picture has changed much since then. Facts like these give a glimpse of the many opportunities for achievement that await delegates upon their return from the Conference:

Community Inventories: Although the Easter Seal Society and the President's Committee on Employment of the Handicapped launched their community inventory project in 1962, only 5,000 public buildings have been surveyed for architectural barriers. Volunteers can be trained for such surveys and find it interesting —it is one of the best ways to sensitize the able-bodied so that they become more deeply involved. The data accumulated by such surveys are of inestimable value since they pinpoint areas where improvements are needed.

Directories for the Handicapped: Less than 70 communities have issued directories which describe architectural features of

local buildings and facilities so that the aged and disabled will know just what obstacles they will encounter. Once community surveys have provided the basic data, the compilation of directories is relatively easy and is a great convenience to many residents of the community as well as to out-of-town visitors.

Organization: Among cities with populations of 50,000 and over, 95 have some type of program dealing with barrier problems; 284 cities of this size have no program. Among metropolitan counties, 42 have programs; 230 have none.

Public Information

A nation-wide opinion poll, arranged for by the National Commission, revealed that 64 percent of the population had never thought about the barriers problem and 89 percent did not know whether their communities were doing anything about it. Since lack of public awareness—rather than opposition—is the major reason for the persistence of environmental barriers, spreading the word is the number one job to be done in every community.

Information for Special Groups: Persons who have direct responsibilities for creating a barrier free environment are almost as uninformed as the general public. A poll of local officials revealed that 40 percent of city officials and 30 percent of county officials were unaware of the need for a program. A poll of architects showed that only 28 percent use the accessilility specifications issued by the United States of America Standards Institute when they design buildings. Queries to manufacturers and suppliers of building materials and to building-code groups also indicated little knowledge or use of data on environmental barriers.

Let's Start

Every community in the Nation, large or small, either needs to organize a program or to revitalize and expand an existing program. As a starter, pick an obvious target where quick and tangi-

ble results can be obtained. For example, tackle the most conspicuous building that is under construction and get barrier free features included. Success breeds success, recruits allies, and generates enthusiasm to tackle the harder and less glamorous tasks.

REMEMBER: MORE BUILDINGS WILL BE BUILT IN THE NEXT THREE DECADES THAN WERE BUILT IN THE LAST 500 YEARS. EVERY ONE OF THOSE BUILDINGS *CAN* BE BARRIER FREE. THE TIME TO START IS NOW.

You can be the dynamo that generates community action!

References

General

AMERICAN STANDARDS INSTITUTE

American Standard specifications for making buildings and facilities accessible to, and usable by, the physically handicapped. 1961. 11 p. figs. Single copies free from the Architectural Barriers Project, National Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Illinois.

CANADA, NATIONAL RESEARCH COUNCIL

Building standards for the handicapped, 1965, by the Associate Committee on the National Building Code. 1965. 20 p. figs. (NRC No. 8333; Suppl. No. 7, Natl. Building Code of Canada) Available from: The Secretary, Associate Committee on the National Building Code, National Research Council, Ottawa, Canada.

A guide to the design and construction of buildings with provisions for making them accessible to the physically handicapped without assistance.

NATIONAL COMMISSION ON ARCHITECTURAL BARRIERS TO REHABILITATION OF THE HANDICAPPED

Design for ALL Americans, 1968. 54 p., illus. For sale by U.S. Superintendent of Documents, Government Printing Office, Washington, D.C., 20402. 50¢.

This is the official report of the Commission. It appraises the current situation and makes recommendations for legislation, research, educational and other measures.

NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS

Proceedings of the National Institute on Making Buildings and Facilities Accessible To and Usable By the Physically Handicapped; a national institute on architectural barriers, sponsored by the . . . Nov. 21–24, 1965, Chicago, Ill. (1966) 86 p. Spiral binding. Distributed free by the Architectural Barriers Project of the National Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Ill. 60612.

Papers covered such subjects as the problems and progress in elimination of architectural barriers and the prevention of barriers through design.

NEW YORK STATE UNIVERSITY CONSTRUCTION FUND

Making facilities accessible to the Physically Handicapped; performance criteria. 1967. 40 p. illus., diags. State University Construction Fund, 194 Washington Ave., Albany, N.Y. 12210.

NUGENT, TIMOTHY J.

Design of buildings to permit their use by the physically handicapped. (1960) 16 p. illus. (Reprinted from *New Building Research,* Fall, 1960; Publ. 910, Building Research Institute, Natl. Academy of Sciences-Natl. Research Council) Distributed free of charge by the National Society for Crippled Children and Adults, 2023 W. Ogden Ave., Chicago, Ill. 60612.

AMERICAN INSTITUTE OF ARCHITECTS—Potomac Valley Chapter, Committee on Architectural Barriers

Barrier-Free Architecture, 1968 illus.

Report of a task force. Assignment: to explore and test means of reaching architects (and others who influence building decisions), with concepts and usable materials which can be translated into decisions for barrier-free architecture.

NATIONAL LEAGUE OF CITIES. DEPARTMENT OF URBAN STUDIES, WASHINGTON, D.C.

State and Local Efforts to Eliminate Architectural Barriers to the Handicapped, 1967. 162 p., illus., by Madelene Baker, Michael A. Fischetti, Lawrence A. Williams, Eddie M. Young.

DANTONA, ROBERT

Architectural barriers for the handicapped; a survey of the law in the United States, by Robert Dantona and Benjamin Tessler. 1967. 10 p. (Reprinted from: *Rehab. Lit.,* Feb. 1967.) Available free from National Society for Crippled Children and Adults, 2023 West Ogden Ave., Chicago, Ill. 60612.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

The Rehabilitation Services Administration Program, 1968. 39 p. illus. Available from Rehabilitation Services Administration, U.S. Department of Health, Education, and Welfare, Washington, D.C., 20201.

Describes Federal financial and technical support of rehabilitation programs, including programs to eliminate architectural barriers.

REHABILITATION RECORD

Nov.-Dec. 1966. Single copies of this publication are available

from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

A special section of this issue, titled "Accent on Access" contains brief papers pertaining to architectural barriers and some results of research efforts to overcome them.

Housing

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Housing for the Physically Impaired—A Guide for Planning and Design, 1968. 49 p., illus. For sale by U.S. Superintendent of Documents, Government Printing Office, Washington, D.C., 20402. 45¢.

Discusses basic concepts of low rent housing for the physically impaired, site locations, and specifications for public areas and individual dwelling units.

GOLDSMITH, SELWYN

Designing for the disabled; a manual of technical information. 1963. 236 p. diags. Published by the Royal Institute of British Architects, Technical Information Service, and available in the U.S. from International Society for Rehabilitation of the Disabled, 219 East 44th St., New York, N.Y. 10017.

A basic reference book for architects and designers, probably the most elaborate treatment of the subject published to date. Major emphasis is on problems in the home. The general check list is valuable in planning housing alterations to accommodate a disabled person.

INTERNATIONAL SOCIETY FOR REHABILITATION OF THE DISABLED

ISRD Conferences: "The physically disabled and their environment" Stockholm, Oct. 12–18, 1961; report of the proceedings. 1962. 208 p. illus., floor plans, tabs. Paperbound. Distributed by International Society for Rehabilitation of the Disabled, 219 East 44th St., New York, New York 10017. (Also available from ISRD Technical Section, c/o SVCK, Ibsengatan 8–14. Bromma 3, Sweden.

Contains conference discussions on architectural planning of homes for the disabled, homemaking methods, and technical aids in laundering, cooking, and clothes and their care, with additional information in appendices on house design and financing of housing.

PARALYZED VETERANS OF AMERICA

Wheel chair houses. 1959. 16 p. illus., floor plans. Paralyzed Veterans of America, Inc. 3636 16th St. N.W., Washington, D.C. 20010. Free on request.

Also distributed by the same organization. *Housing for the Chairborne.* 3 p. Mimeo. Covers general considerations in design in housing for those in wheel chairs.

WINSTON, JACK A.

Concepts of residential care; an architectural guide. 1960. 49 p. illus. United Cerebral Palsy Associations of New York State, 220 West 42d St., New York, N.Y.10036.

McCULLOUGH, HELEN E.

Kitchens for Women in Wheel Chairs, by Helen E. McCullough and Mary B. Farnham. 1961. 31 p. illus., plans (Extension Serv. in Agriculture and Home Economics, Circ. No. 841.)

Also by the same authors: *Space and design requirements for wheel chair kitchens.* 1960. 47 p. illus. tabs., floor plans (Bull. 661). Both bulletins are available on request to Information Office, College of Agriculture, Mumford Hall, University of Illinois, Urbana, Ill. 61803.

NEW YORK UNIVERSITY MEDICAL CENTER. Institute of Medicine

Planning kitchens for handicapped homemakers, by Virginia Hart Wheeler. 1955. 82 p. illus., diags., floor plans. (Rehab. monograph XXVII.) Paperbound. Spiral binding. Publications Unit, Institute of Rehabilitation Medicine, 400 East 34th St., New York, N.Y. 10016.

AMERICAN HEART ASSOCIATION

The heart of the home. 1950. 27 p. illus. Available from local Heart Associations or the American Heart Association, 44 East 23d St., New York, N.Y. 10010.

KIRA, ALEXANDER

The bathroom; criteria for design. 1966.ix, 116 p. figs., tabs. Paperbound. (Center for Housing and Environmental Studies, Research rep. No. 7) Cornell University, Center for Housing and Environmental Studies, Ithaca, N.Y. 14850.

MATHIASEN, GENEVA AND EDWARD H. NOAKES

Planning homes for the aged. 1959. 113 p. architectural drawings. Published by F. W. Dodge Corp., and available from McGraw-Hill Book Co., 330 West 42d St., New York, N.Y. 10036, or from National Council on the Aging, Publications Office, 104 East 25th St., New York, N.Y. 10010.

MUSSON, NOVERRE

Buildings for the elderly, by Noverre Musson and Helen Heusinkveld. 1963. 216 p. illus., plans. Reinhold Publishing Corp., 430 Park Ave., N.Y., N.Y. 10022. $15.00.

Authored by an architect and a member of the National Coun-

cil on the Aging, this book is written mainly for architects and builders, laymen, and community leaders interested in providing adequate, satisfying housing for older people, and the elderly planning to build or resettle.

Public Buildings

THE CONGRESS OF THE UNITED STATES

Public Law 90–480—An Act to insure that certain buildings financed with Federal funds are so designed and constructed as to be accessible to the physically handicapped. August 12, 1968. 1 page. Available from Members of Congress.

UNITED STATES SENATE. COMMITTEE ON PUBLIC WORKS, WASHINGTON, D.C.

Accessibility of Public Buildings to the Physically Handicapped, Hearings, 90th Congress, first session on S–222—"A Bill to Insure That Public Buildings Financed with Federal Funds Are So Designed and Constructed As To Be Accessible to the Physically Handicapped", July 1967. 96 p., charts, tables. Available from Members of Congress.

HOFSTRA UNIVERSITY

The development and effects of an inexpensive elevator for eliminating architectural barriers in public buildings, prepared by Harold E. Yuker, Alfred Cohn, and Martin A. Feldman. 1966. 112 p. illus. Paperbound. (VRA Demonstration Grant No. RD–1651–C) Distributed by Hofstra University, Program for Higher Education of the Disabled, Hempstead, Long Island, N.Y. 11550.

Schools, Colleges, Universities

KANSAS, KANSAS STATE TEACHER COLLEGE

Higher Education and Handicapped Students—An Administrative Handbook, edited by William V. Tucker, M.S.: Project Director Harry J. Waters, EdD., 1964, 91 p., illus.

A guide for university personnel in developing plans and procedures for accommodating handicapped college students.

A survey of special facilities at schools of higher education throughout the Nation.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE—Office of Education

School housing for phsically handicapped children, by Romaine P. Mackie, 1951, 26 p. illus. (Bull. 1951, No. 17) U.S. Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Mobility for Handicapped Students, 1968. 10 p. Available from Rehabilitation Services Administration, U.S. Department of Health, Education, and Welfare, Washington, D.C. 20201

Lists institutions of higher education that can accommodate disabled students and includes check list of their barrier free features.

CONNECTICUT, STATE DEPARTMENT OF EDUCATION

Plan for me. 1955. 15 p. illus. (Bull. No. 63) Connecticut State Dept. of Education, 600 Asylum St., Hartford, Conn. 06115.

HATHWAY, WINIFRED

Education and health of the partially seeing child; revised by Franklin M. Foote, Dorothy Bryan, and Helen Gibbons. 1959. 201 p. illus., tabs. (4th ed.) Published for the National Society for the Prevention of Blindness by Columbia University Press, 2960 Broadway, New York, N.Y. 10027.

Chapters 11, 12, and appendix 2 include discussions of physical features of the special classroom, its equipment and facilities.

Transportation

U.S. PRESIDENT'S COMMITTEE ON EMPLOYMENT OF THE HANDICAPPED

Guidebooks for Handicapped Travelers. 14 p. plus 1968 addendum. Available from U.S. President's Committee on Employment of the Handicapped, U.S. Labor Building, Washington, D.C. 20210.

Lists all cities in the U.S. that have directories for the handicapped and gives addresses where these directories can be obtained.

PARALYZED VETERANS OF AMERICA

Where Turning Wheels Stop, 3rd edition, 1968. 84 p. For sale by Paralyzed Veterans of America, Inc., 3636 16th Street, N.W., Washington, D.C. 20010. $1.00

Lists accessible lodging and eating places in the U.S. (except Alaska) and identifies facilities that have facilities for paraplegics.

NOAKES, EDWARD H.

Transit for the Handicapped. Reprinted from Nation's Cities, March, 1967, and distributed by the U.S. President's Committee on Employment of Handicapped, U.S. Labor Building, Washington, D.C. 20210.

JOINT COMMITTEE ON MOBILITY FOR THE DISABLED

Conveyance of the Disabled, 1968. 40 p., illus. Available from The Spastics Society, 12 Park Crescent, London, W.I., England. Five (5) Shillings.

Report of the Ad Hoc Committee; includes results of a survey of existing vehicles in England for transport of groups of disabled and recommendations for design and safety features of such vehicles.

Recreation

DEPARTMENT OF THE INTERIOR, BUREAU OF OUTDOOR RECREATION

Outdoor Recreation Planning for the Handicapped, 1967. 34 p. illus. For Sale by Supt. of Documents, U.S. Govt. Printing Office, Washington, D.C. 20402.

Prepared in cooperation with the National Recreation and Park Association, this technical assistance pamphlet is designed to provide helpful practical information to planners, administrators and other interested individuals.

STATE OF NEW YORK, DEPARMTENT OF CONSERVATION, STATE COUNCIL OF PARKS AND OUTDOOR RECREATION, ALBANY, N.Y.

Outdoor Recreation for the Physically Handicapped—A Handbook of Design Standards, 1967. 16 p., illus.

NATIONAL ASSOCIATION OF COUNTIES RESEARCH FOUNDATION

Outdoor Recreation—Community Action Program for Public Officials, 1968. Series of 10 booklets available from National Association of Counties Research Foundation, 1001 Connecticut Ave., N.W., Washington, D.C. 20036.

Separate booklets on planning, legal aspects, organization, staffing, area-wide and multi-governmental opportunities, financing, technical and financial assistance, land acquisition, water-based recreation, and citizen support. Developed cooperatively with the Bureau of Outdoor Recreation, U.S. Department of the Interior.

ATHLETIC INSTITUTE

Planning areas and facilities for health, physical education, and recreation, by participants in National Facilities Conference. Rev. 1965, viii, 272 p. figs., tabs. Paperbound. The Athletic Institute, Merchandise Mart, Chicago, Ill., 60654.

UNITED CHURCH PRESS

Site selection and development; camps, conferences, retreats. 1965. 174 p. illus, diags., floor plans. Paperbound. Spiral binding. United Church Press, 1505 Race St., Philadelphia, Pa. 19102

U.S. PRESIDENT'S COMMITTEE ON EMPLOYMENT OF THE HANDICAPPED

Guide to the national parks and monuments for handicapped tourists. 1966. x, 81 p. illus. Distributed by the President's Committee on Employment of the Handicapped, 7131 Dept. of Labor Bldg., Washington, D.C. 20210.

Intended as an aid in planning trips, the guide contains information obtained from a questionnaire survey of more than 200 units of the National Park Service.

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